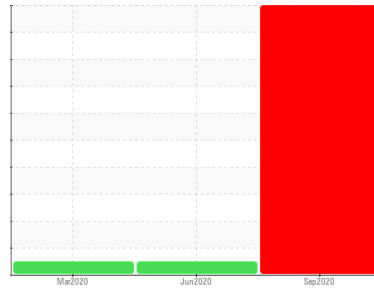




# PROBLEM SUMMARY

## Sample Rating Trend

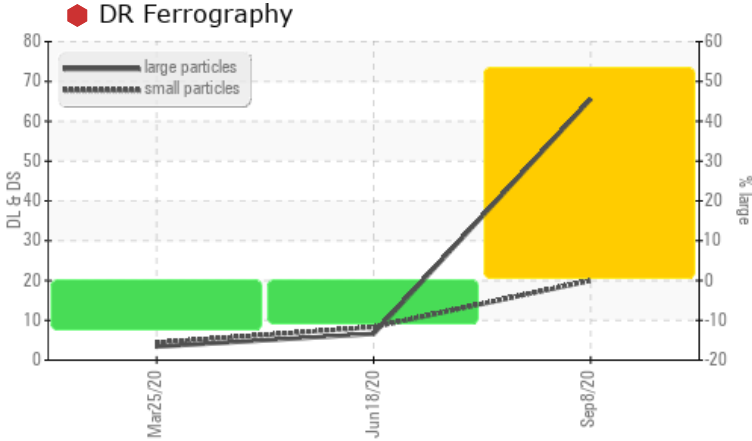


WEAR PARTICLES



Machine Id  
**BEECHCRAFT PCE-81604**  
 Component  
**Jet Turbine**  
 Fluid  
**EASTMAN TURBO OIL 2380 (--- GAL)**

## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	NORMAL	NORMAL
Large Particles		DR-Ferr	65.6	6.6	3.4
Small Particles		DR-Ferr	20.0	8.3	4.4
Total Particles		DR-Ferr >0.0	85.6	14.9	7.8
Large Particles Percentage	%	DR-Ferr	53.3	-11.4	-12.8
Severity Index		DR-Ferr	2991	-11.2	-3.4
Ferrous Cutting	Scale 0-10	ASTM D7684	3		
Ferrous Rolling	Scale 0-10	ASTM D7684	2	1	1
Sand/Dirt	Scale 0-10	ASTM D7684	4		1
Filter Image 1			no image	no image	no image
Filter Image 2			no image	no image	no image

Customer Id: CUSANY  
 Sample No.: WC1234567  
 Lab Number: 01234567  
 Test Package: AVI 3



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Bill Quesnel CLS, OMA II, MLA-III, LLA-I +1  
 (905)569-8600 x4641  
[Bill.Quesnel@wearcheck.com](mailto:Bill.Quesnel@wearcheck.com)

To change component or sample information:  
 Gloria Gonzalez +1 (905)569-8600 x4643  
[gloria.gonzalez@wearcheck.com](mailto:gloria.gonzalez@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	MISSED	Oct 02 2020	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	MISSED	Oct 02 2020	?	We recommend an early resample to monitor this condition.

## HISTORICAL DIAGNOSIS

### 18 Jun 2020 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. The water content is negligible. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 25 Mar 2020 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. The water content is negligible. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

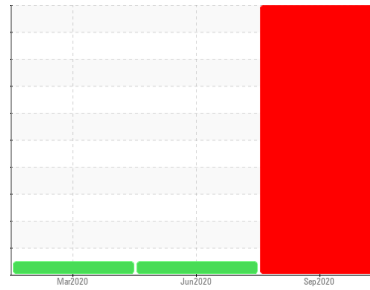
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR PARTICLES



Machine Id  
**BEECHCRAFT PCE-81604**  
 Component  
**Jet Turbine**  
 Fluid  
**EASTMAN TURBO OIL 2380 (--- GAL)**

## DIAGNOSIS

### Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

### Wear

Wear particle analysis indicates that the ferrous cutting particles are severe. Large Particles and small particles and severity index and total particles levels are severe. Wear particle analysis indicates that the ferrous rolling particles are abnormal. Large Particles Percentage levels are abnormal.

### Contaminants

The water content is negligible.

### Oil Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number			<b>WC0500909</b>	WC0438328	WC0438327
Sample Date			<b>08 Sep 2020</b>	18 Jun 2020	25 Mar 2020
TSN	hrs		<b>14044</b>	13834	0
TSO	hrs		<b>483</b>	273	92
Oil Age	hrs		<b>483</b>	0	92
Oil Changed			<b>Not Changed</b>	Not Changed	Not Changed
Sample Status			<b>SEVERE</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history 1	history 2
PQ	In-house		<b>16</b>	0	15
Iron	ppm ASTM D5185(m)	>8	<b>&lt;1</b>	0	<1
Chromium	ppm ASTM D5185(m)	>2	<b>0</b>	0	<1
Nickel	ppm ASTM D5185(m)	>2	<b>&lt;1</b>	<1	0
Titanium	ppm ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm ASTM D5185(m)	>2	<b>&lt;1</b>	0	<1
Aluminum	ppm ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Lead	ppm ASTM D5185(m)	>3	<b>0</b>	<1	0
Copper	ppm ASTM D5185(m)	>3	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185(m)	>2	<b>0</b>	0	0
Antimony	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Vanadium	ppm ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm ASTM D5185(m)		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185(m)	0	<b>&lt;1</b>	0	<1
Barium	ppm ASTM D5185(m)	0	<b>0</b>	0	<1
Molybdenum	ppm ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm ASTM D5185(m)	0	<b>&lt;1</b>	0	<1
Calcium	ppm ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Phosphorus	ppm ASTM D5185(m)	2500	<b>2850</b>	2816	2765
Zinc	ppm ASTM D5185(m)	0	<b>&lt;1</b>	2	<1
Sulfur	ppm ASTM D5185(m)	0	<b>5</b>	8	6
Lithium	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

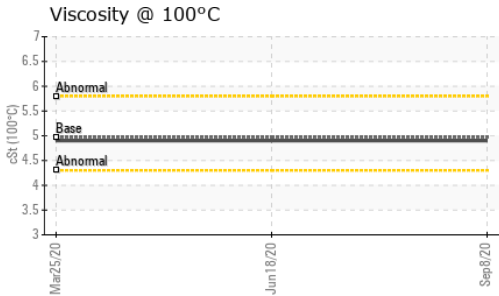
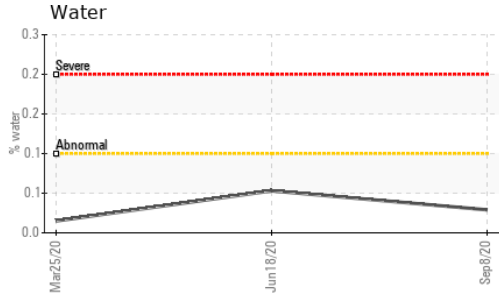
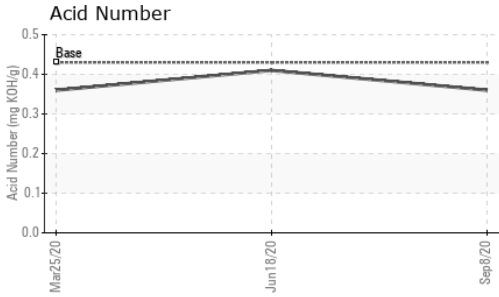
	method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185(m)	>8	<b>2</b>	1	4
Sodium	ppm ASTM D5185(m)		<b>0</b>	0	0
Potassium	ppm ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Water	% ASTM D6304	>0.1	<b>0.029</b>	0.053	0.015
ppm Water	ppm ASTM D6304	>1000	<b>296.0</b>	537.9	154.0

## FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Acid Number (AN)	mg KOH/g ASTM D974	0.43	<b>0.36</b>	0.41	0.36



# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2	
White Metal	scalar	Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual	NONE	<b>VLITE</b>	NONE	VLITE
Sand/Dirt	scalar	Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2	
Visc @ 40°C	cSt	ASTM D7279(m)	24.2	<b>24.1</b>	24.1	24.3
Visc @ 100°C	cSt	ASTM D7279(m)	4.97	<b>4.9</b>	4.9	4.9
Viscosity Index (VI)	Scale	ASTM D2270	134	<b>129</b>	129	127

SAMPLE IMAGES	method	limit/base	current	history 1	history 2
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Color	method	limit/base	current	history 1	history 2
Bottom					
Filter Image 1				no image	no image
Filter Image 2				no image	no image



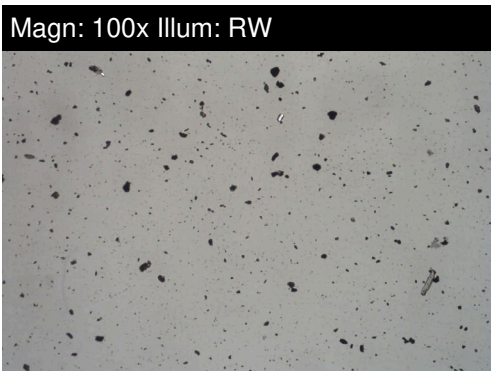
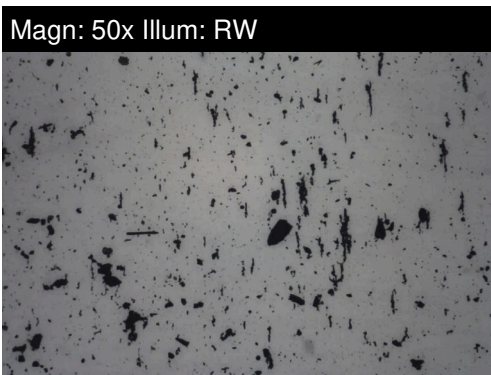
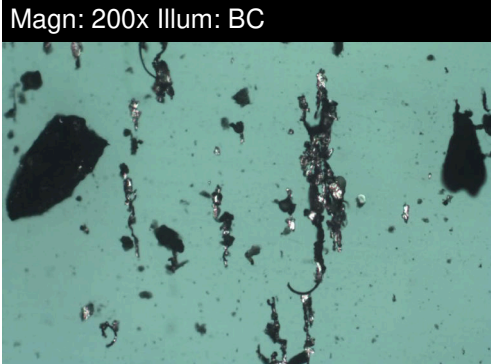
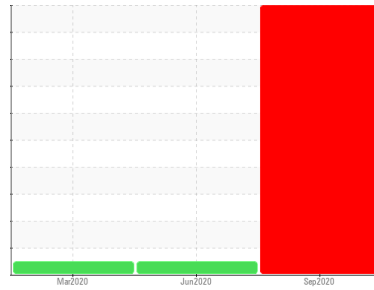
**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC1234567      **Received** : 11 Sep 2020  
**Lab Number** : 01234567      **Diagnosed** : 15 Sep 2020  
**Unique Number** : 12345678      **Diagnostician** : Bill Quesnel  
**Test Package** : AVI 3 ( Additional Tests: PQ )

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 (m) Denotes a modified test method, (e) Denotes a test conducted using an external laboratory.

**Cusany Logistics Inc.**  
 1212 Industrial Place  
 Centerville, OH  
 USA 75900  
 Contact: Jim Leduc  
 jim.leduc@cusanylogisticsinc.com  
 T: (305)555-1212  
 F: (305)555-1222



Machine Id  
**BEECHCRAFT PCE-81604**  
 Component  
**Jet Turbine**  
 Fluid  
**EASTMAN TURBO OIL 2380 (--- GAL)**



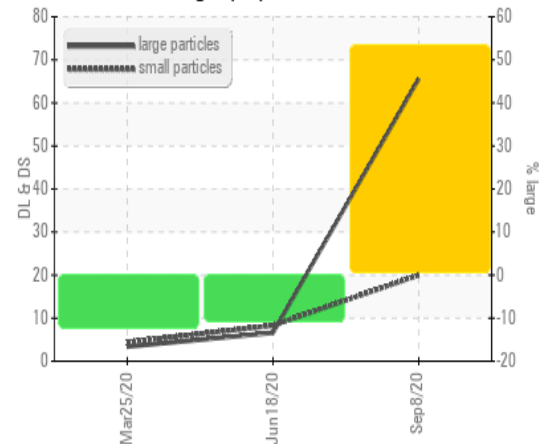
DR-FERROGRAPHY		method	limit/base	current	history 1	history 2
Large Particles		DR-Ferr		<span style="color:red">●</span> <b>65.6</b>	6.6	3.4
Small Particles		DR-Ferr		<span style="color:red">●</span> <b>20.0</b>	8.3	4.4
Total Particles		DR-Ferr	>0.0	<span style="color:red">●</span> <b>85.6</b>	14.9	7.8
Large Particles Percentage	%	DR-Ferr		<span style="color:orange">▲</span> <b>53.3</b>	-11.4	-12.8
Severity Index		DR-Ferr		<span style="color:red">●</span> <b>2991</b>	-11.2	-3.4

FERROGRAPHY		method	limit/base	current	history 1	history 2
Ferrous Rubbing	Scale 0-10	ASTM D7684		<span style="color:green">■</span> <b>2</b>	<span style="color:green">■</span> 1	<span style="color:green">■</span> 1
Ferrous Sliding	Scale 0-10	ASTM D7684				
Ferrous Cutting	Scale 0-10	ASTM D7684		<span style="color:red">■</span> <b>3</b>		
Ferrous Rolling	Scale 0-10	ASTM D7684		<span style="color:orange">▲</span> <b>2</b>	<span style="color:green">■</span> 1	<span style="color:green">■</span> 1
Ferrous Break-in	Scale 0-10	ASTM D7684				
Ferrous Spheres	Scale 0-10	ASTM D7684				
Ferrous Black Oxides	Scale 0-10	ASTM D7684				
Ferrous Red Oxides	Scale 0-10	ASTM D7684				
Ferrous Corrosive	Scale 0-10	ASTM D7684				
Ferrous Other	Scale 0-10	ASTM D7684				
Nonferrous Rubbing	Scale 0-10	ASTM D7684				
Nonferrous Sliding	Scale 0-10	ASTM D7684				
Nonferrous Cutting	Scale 0-10	ASTM D7684				
Nonferrous Rolling	Scale 0-10	ASTM D7684				
Nonferrous Other	Scale 0-10	ASTM D7684				
Carbonaceous Material	Scale 0-10	ASTM D7684				
Lubricant Degradation	Scale 0-10	ASTM D7684				
Sand/Dirt	Scale 0-10	ASTM D7684		<span style="color:orange">▲</span> <b>4</b>		<span style="color:green">■</span> 1
Fibres	Scale 0-10	ASTM D7684				
Spheres	Scale 0-10	ASTM D7684				
Other	Scale 0-10	ASTM D7684			<span style="color:green">■</span> 1	<span style="color:green">■</span> 1

## WEAR

Wear particle analysis indicates that the ferrous cutting particles are severe. Large Particles and small particles and severity index and total particles levels are severe. Wear particle analysis indicates that the ferrous rolling particles are abnormal. Large Particles Percentage levels are abnormal.

## DR Ferrography



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